EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Clay Faries on November 12, 2008.

Amendment of claims filed in response filed August 4, 2008.

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Claim 23, line 16	replace "or ionizing" with "and ionizing"
Claim 23, line 17	replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

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Claim 25, line 11	replace "or ionizing" with "and ionizing"
Claim 25, line 12	replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

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Claim 26, line 2 delete "wherein the solid oxide is substantially free of silica-zirconia;"

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Claim 26, line 10 replace "or ionizing" with "and ionizing"

Claim 26, line 11 replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

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Claim 27, line 4 replace "or ionizing" with "and ionizing"

Claim 27, line 5 replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

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Claim 28, line 15 replace "or ionizing" with "and ionizing"

Claim 28, line 16 replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

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Claim 30, line 17	replace "or ionizing" with "and ionizing"
Claim 30, line 18	replace "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions"

Basis for amendments:

The conjunction "or" in claims 23, 25-28, and 30 was replaced with "and" since the inventive composition is substantially free of each of the listed co-catalysts.

The phrase "catalyst composition will produce a polyolefin when added to an olefin under polymerization conditions" has been replaced with "a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions" because the catalyst does not produce a polyolefin per se. Rather, a polyolefin is produced in the presence of the catalyst. Claims 23, 25-28, and 30 have been reworded in passive voice, and diction is consistent with the description in the specification at page 4, lines 12-14.

The phrase "wherein the solid oxide is substantially free of silica-zirconia" is redundant since silica-zirconia has been removed from the Markush group of claim 26.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 23, 25-28, and 30 are allowed over the closest references cited below.

The present invention is drawn to a catalyst composition comprising the contact product of at least one metallocene compound and at least one chemically treated solid oxide wherein the catalyst composition is substantially free of an organoaluminum compound of formula $Al(X^5)_n(X^6)_{3-n}$, wherein the catalyst composition is substantially free of co-catalysts, organoboron compounds, and ionizing ionic compounds, and wherein a polyolefin is produced upon contacting the catalyst composition with an olefin under polymerization conditions. See claims for structural features of the metallocene compound and description of chemically treated solid oxide. Another aspect of the invention is drawn to a process for preparing the catalyst composition.

Inventors have developed a catalyst composition comprising a chemically treated solid oxide which that is sufficiently Lewis acidic to function as an "activator-support," or ionizing solid oxide. This discovery is significant in that active catalyst is produced that is substantially free of, and obviates the need for, organoaluminum compounds, co-catalysts, organoboron compounds, and ionizing compounds.

Amended claims filed on August 4, 2008, recite the transitional phrase "comprising," whereas claims filed prior to amendment, on December 18, 2007, utilize the transitional phrase "consisting essentially of." Support for the term "comprising" can be found in the original disclosure and originally filed claims.

Support for the catalyst compositions substantially free of co-catalysts, organoboron compounds, and ionizing ionic compounds may be found in the specification 1, lines 31-33, page 4, lines 5-8, page 20, lines 16-27, page 20, line 30-page 31, line 2, page 27, lines 16-19, and page 50, lines 30-page 51, line 1. Collectively, the disclosure would have reasonably conveyed to one having ordinary skill in the art that the inventors, at the time the application was filed, had possession of the claimed catalyst composition.

Hawley *et al.* (U.S. 6,667,274) discloses catalyst composition comprising chlorided zinc containing alumina as the chemically treated solid oxide and $Me_2Si(Ind)_2ZrCl_2$ or $Me_2Si(2\text{-}MeInd)_2ZrCl_2$ as the metallocene component; see examples 51 and 52. These catalysts are substantially free of organoaluminum compounds of formula $Al(X^5)_n(X^6)_{3-n}$, co-catalysts, organoboron compounds and ionizing ionic compounds. However, these catalysts have been shown to be inert to polymerization.

Marks *et al.* (U.S. 6,235,918) discloses preparation of sulfated zirconia supported on silica. Metallocenes used for preparation of catalyst include $CpTiMe_3$, Cp^*TiMe_3, Cp_2ZrMe_2, Cp^*HfMe_2, Cp^*ZrMe_3, and $CGCZrMe_2$. The reference does not teach preparation of treated solid oxides described in instant claims, and one of ordinary skill in the art would not have found it obvious to modify the invention to make catalysts of the instant invention. It is noted that sulfated zirconia supported on silica is not chemically the same as sulfated zirconia-silica.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
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November 12, 2008

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